

Claim

1. The technique of production of red diamonds with stable NV centers absorbing within the 400-to-640 nm range by means of electron irradiation and annealing in a vacuum at a temperature exceeding 1100⁰C is different in that natural type Ia diamonds are used and if they contain A centers, in their crystal lattice isolated substitutional nitrogen atoms (C centers) are formed by means of HPHT treatment in a high pressure apparatus at a temperature exceeding 2150⁰C and under a stabilizing pressure of 6.0-7.0 GPa. Then such diamonds are irradiated with $5 \cdot 10^{15} - 5 \cdot 10^{18} \text{ cm}^{-2}$ 2-4 MeV electrons and annealed in a vacuum at 1100⁰C. If type Ia diamonds are high-nitrogenous natural diamonds containing over 800 ppm of impurity nitrogen in the form of A and B1 centers, they are irradiated with 10^{19} cm^{-2} electrons (to create C centers) and annealed in a vacuum at 1100⁰C.